PROSPECTIVE STUDY ON THE MICROBIAL PROFILE OF BACTERIAL INFECTIONS BEFORE AND AFTER FLAP RECONSTRUCTIVE SURGERY:

Abstract:

Introduction : Flap Reconstructive surgery is a boon to patients with soft tissue defects due to various causes. The confounding factor which hinders healing is infection of the flaps which poses a challenge to the surgeon and microbiologist. The bacterial isolates and their antimicrobial susceptibility pattern aids the clinician in rational use of prophylactic antibiotics and improves the success rate of reconstructed flaps.

Aim. The aim of the study is to isolate , identify the organisms from pus samples obtained from pre-operative and post-operative wounds and demonstrate its antimicrobial resistance pattern with molecular characterization.

Materials and methods: Total 200 samples were collected including patients awaiting for surgery. They were tested for carbapenemase production by phenotypic and genotypic methods.

Results ; Proteus species was the most common isolate. MDR and XDR isolates were isolated including resistance to Meropenem. The resistant isolates were subjected to phenotypic methods such as Modified Hodge test and Double disk synergy test and Etest. 100% of isolates were positive for all the phenotypic methods. Molecular characterisation was done. blaVIM gene and ImpR gene were present in 100% of resistant isolates.

CONCLUSION : Flap reconstruction is a major problem for patients with soft tissue defects due to various causes. Awareness about the use of personal protective equipment's (PPE), hand hygiene, contact isolation, healthcare personnel education, barrier precautions, timely notification and active surveillance testing are essential to prevent the outbreak of infections caused by these multi-drug resistant MDR and XDR isolates.

In conclusion, Species identification, surveillance and the study of the epidemiology of anti-microbial resistance will assist in the therapeutic management of patients.

Key words: xdr -extremely drug resistant, mdr-multi drug resistant, blaVIM-betalactamase Verona integron encoded imipenamase. ImpR- mutant porin channel of proteus.